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Atty. Docket No. 0508-1004 # 7

PATENTS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Gerard GIORDANO et al.

Confirmation No. 8083

Serial No. 10/088,117

BOX PCT

Filed March 15, 2002

NUCLEOTIDE SEQUENCES DERIVED
FROM GENES CODING FOR TRIMETHYLAMINE
N-OXIDE REDUCTASE, AND USES THEREOF,
ESPECIALLY FOR THE DETECTION OF
BACTERIA

**STATEMENT TO SUPPORT FILING AND SUBMISSION IN
ACCORDANCE WITH 37 C.F.R. §§ 1.821-1.825**

Commissioner for Patents

Washington, D.C. 20231

Sir:

Responsive to the Official Action of May 20, 2002, a
Sequence Listing is submitted concurrently herewith.

The undersigned hereby states that:

1. the submission, filed herewith in accordance with
37 C.F.R. § 1.821(g), does not include new matter;
2. the content of the attached paper copy and the
attached computer readable copy of the Sequence Listing,
submitted in accordance with 37 C.F.R. § 1.821(c) and (e),
respectively, are the same; and
3. all statements made herein of their own knowledge
are true and that all statements made on information and belief
are believed to be true; and further, that these statements were
made with the knowledge that willful false statements and the

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like so made are punishable by fine or imprisonment, or both,
under Section 1001 of Title 18 of the United States Code and that
such willful false statements may jeopardize the validity of the
application or any patent resulting therefrom.

Respectfully submitted,

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July 22, 2002

SEQUENCE LISTING

<110> CNRS

<120> NUCLEOTIDE SEQUENCES DERIVED FROM GENES CODING FOR
TRIMETHYLAMINE N-OXIDE REDUCTASE, AND USES THEREOF,
ESPECIALLY FOR THE DETECTION OF BACTERIA

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tcgttctacg aggcggcggt gaagcagggc gatcgctgag ttcccgatca ccgagggcg cgaacttcgtt 1860
gaggacttct ggtcggaaag gatcgctgag ttcccgatca ccgagggcg cgaacttcgtt 1920
cgctatgccg acttcgcga ggatccgctg ttcaaccccc tcggcacgcc ctgcggcctg 1980
atcgagatct actcgaagaa catcgagaag atgggctatg acgattgccc ggcccatccg 2040
acctggatgg aaccggccga gcgtctcggc gggccggggg cgaaatatcc gctccatgtg 2100
gtggcgagcc acccgaactc gcggctgcac tcgcagctga acggcacctc gctgcgcgac 2160
ctctatgcgg tcgcggggca cgagccctgt ctcataaacc ccgacgatgc ggccgcgcgc 2220
ggcatcgcgg acggcgatgt gctcggggtg ttcaacgacc gcgggcagat cctcgtgggc 2280
gcgaaggtag gcgacgggt gatgccgggc gcgatccagg tctacgaggg cggctggtac 2340
gaccgctcgc acccctcgga ggaaggcacg ctcgacaaat acggcgacgt gaacgtgctg 2400
tcgctcgacg tcggcacctc gaagctggcg cagggcaact gcggccagac catcctcgcg 2460
gatgtcgaag aatatgcggg cgcgccgggt acggtgaccg tgttcgacac gccgaaggga 2520
ccc 2523

```

```

<210> 7
<211> 2475
<212> DNA
<213> Rhodobacter capsulatus

```

```

<400> 7
atgacgaagt tttccggaaa cgagctgcgc gcagagcttt accgccgcgc tttcctcagc 60
tactcgggtg caccggggcg gctgggcatg ttcggccggg cgcttctggc caagggcgcc 120
cgcccgaggg cgctggccaa tggcacgggt atgtcgggca gccactgggg cgtctttacc 180
gcgacggctg aaaacggccg cgccaccggc ttcacccctc gggaaaaaga cccgcacccg 240
acgccgatgc tgggaaggcg gctggactcg atctattcgc cgacgcggat caaatatccg 300
atggtgcggc gcgaattcct cgaaaaaggg gtgaatgctg atcgctccac ccgcggcaac 360
ggcgattttc gtcccgtcag ctgggatcag gcgctcgatc tgcatggctg cggcgagggtc 420
aaacgggtcg aaggagacct acggcccgcg ggcgtctttg gcggctccta tggctggaaa 480
agccccgggc ggctgcacaa ttgcaccacg cttctgcgcc ggatgctgac gctggcgggc 540
ggctatgtga acggcgcggg cgattattcg accggcgcg cgcagggtgat catgcgcgat 600
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accgaagtca tgggtgttct ggccgcccga ccgatcaaga cagcagatat cggctgggtg 720
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gacctgtatg taaaggactt catcgccaac tacacctcgg gcttcgacaa gttcctgccc 960
tatctgatgg gcgagaccga cagcacggcg aagaccggcg aatgggctgc ggatatcagc 1020
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ctggcgggcg gctggctgat gcagcggtat catcacggcg agcaggcgca ttggatgctg 1140
gtgacgctgg cctcgatgct gggtcagatc gggctgcggg gcggcggttc cgggctgtcc 1200
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gatggcgggc gacgaagggg ccggaatggc tggcgggcag cggcgcttcg gtgtatccc 1320
gtggcgcgcg tggctgacat gctggaaaac cccggcgccg aattcgactt caacggtacg 1380
cggtcgaagt tcccggatgt gaagatggcc tattgggttg gcggaacccc ttcgtgtcac 1440

```



```

catcaggacc gcaaccgcat ggtcaaggcc tgggaaaaac tggaacacct catcgtgcat 1500
gacttccagt ggacgcccac ggcgcggcat gccgacatcg tgctgcccg caccgaccagc 1560
tatgaacgca acgacatcga gacgatcggc gattattcga acaccggcat cctggcgatg 1620
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gcgaaggcgg tcgaa 2475

```

<210> 8
 <211> 404
 <212> PRT
 <213> Rhodobacter sphaeroides

<400> 8
 Met Gly Arg Ser Cys Gly Gln Ala Ser Glu Ala Lys Val Ile Gly Arg
 1 5 10 15
 Ile Trp Lys Ala Phe Trp Arg Pro Ser Thr Lys Trp Gly Leu Gly Val
 20 25 30
 Leu Leu Val Thr Gly Gly Ile Ala Gly Ala Val Gly Trp Asn Gly Phe
 35 40 45
 His Tyr Val Val Glu Lys Thr Thr Thr Thr Glu Phe Cys Ile Ser Cys
 50 55 60
 His Ser Met Arg Asp Asn Asn Tyr Glu Glu Tyr Lys Thr Thr Ile His
 65 70 75 80
 Tyr Gln Asn Thr Ser Gly Val Arg Ala Glu Cys Ala Asp Cys His Val
 85 90 95
 Pro Lys Ser Gly Trp Lys Leu Tyr Arg Ala Lys Leu Leu Ala Ala Lys
 100 105 110
 Asp Leu Trp Gly Glu Ile Arg Gly Thr Ile Asp Thr Arg Glu Lys Phe
 115 120 125
 Glu Ala His Arg Leu Glu Met Ala Glu Thr Val Trp Ala Asp Met Lys
 130 135 140
 Ala Asn Asp Ser Ala Thr Cys Arg Thr Cys His Ser Phe Glu Ala Met
 145 150 155 160
 Asp Phe Ala His Gln Lys Pro Glu Ala Ser Lys Gln Met Gln Gln Ala
 165 170 175
 Met Asn Glu Gly Gly Thr Cys Ile Asp Cys His Lys Gly Ile Ala His
 180 185 190

Lys Met Pro Asp Met Ala Ser Gly Tyr Arg Ala Leu Phe Ser Lys Leu
 195 200 205
 Glu Lys Ala Ser Gln Ser Leu Lys Pro Arg Lys Gly Glu Thr Leu Tyr
 210 215 220
 Pro Leu Arg Thr Ile Glu Ala Tyr Leu Glu Lys Pro Ser Gly Glu Lys
 225 230 235 240
 Ala Lys Ala Asp Gly Arg Leu Leu Ala Ala Thr Pro Met Gln Val Val
 245 250 255
 Asp Val Thr Gly Asp Trp Val Gln Val Ala Val Lys Gly Trp Gln Gln
 260 265 270
 Glu Gly Ala Glu Arg Val Ile Tyr Glu Lys Gln Gly Lys Arg Ile Phe
 275 280 285
 Asn Ala Ala Leu Ala Pro Ala Ala Thr Gly Ser Val Val Pro Gly Ala
 290 295 300
 Ser Met Val Asp Pro Asp Thr Glu Gln Thr Trp Thr Asp Val Ser Leu
 305 310 315 320
 Thr Ala Trp Val Arg Asn Arg Asp Leu Thr Gly Asp Gln Glu Ala Leu
 325 330 335
 Trp Gln Tyr Gly Lys Gln Met Tyr Asn Gly Ala Cys Gly Met Cys His
 340 345 350
 Val Leu Pro His Pro Glu His Phe Leu Ala Asn Gln Trp Ile Gly Thr
 355 360 365
 Leu Asn Ala Met Lys Ser Arg Ala Pro Leu Asp Asp Glu Gln Phe Arg
 370 375 380
 Leu Val Gln Arg Tyr Val Gln Met His Ala Lys Asp Val Glu Pro Glu
 385 390 395 400
 Gly Ala Ala Glu

<210> 9
 <211> 2544
 <212> DNA
 <213> Escherichia coli

<400> 9
 atgaacaata acgatctctt tcaggcatca cgtcggcggtt ttctggcaca actcggcggc 60
 ttaaccgtcg ccgggatgct ggggcogtca ttgttaacgc cgcgacgtgc gactgcggcg 120
 caagcggcga ctgacgctgt catctcgaaa gagggcattc ttaccgggtc gactggggg 180
 gctatccgcg cgacggtgaa ggatggtcgc tttgtggcgg cgaaaccggt cgaactggat 240
 aaatatccgt cgaaaatgat tgccggattg ccggatcacg tacacaacgc ggcgcgtatt 300
 cgttatccga tggtagcgt ggactggctg cgtaagcgcc atctcagcga tacctcccag 360
 cgcggtgata accgttttgt gcgcgtgagc tgggatgaag ccctcgacat gttctatgaa 420
 gaactggaac gcgtgcagaa aactcacggg ccgagtgcct tgctgacgc cagtggttgg 480
 caatcgacgg ggatgttcca taacgcttcg gggatgcgtg cgaaacgtat tgccttgc 540
 ggtaatatagcg ttggtacggg cggagattac tctaccggtg ctgcgcaggt gatcctgccg 600

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cgcgtagtcg gttcgatgga agtgtatgaa cagcaaacct cctggccgct ggtattgcag 660
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tggtgccccg atcacgatgt ttatgaatat tacgcgcagc taaagcgaaa gtcggccgcc 780
ggtgaaattg aggtcatcag catcgatccg gttgtcacat ccacccatga gtatctgggc 840
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ccggggaaag tgatcaactg gaacggtaaa tcggtaaaac tgccgccgct gaaaatgtgt 1440
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gccgatatcg tactgcctgc gaccacgcag tttgagcgta acgatctcga ccagtacggc 1620
aatcactcca accgtggcat tatcgccatg aaacagggtg tgccgccgca gttcgaggcg 1680
cgcaacgact tcgatatttt ccgcgagctg tgccgtcgct ttaatcgca agaagccttt 1740
accgaaggcg tggacgaaat gggctggctg aaacgcattc ggcaggaagg tgtacagcaa 1800
ggcaaaggac gcggcgttca tctgccagcg tttgatgact tctggaataa caaagagtac 1860
gtcgagtttg accatccgca gatgtttgtt cgccaccagg cattccgcga agatccggat 1920
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cttcaactcg agttatgtga gtcggaaacg ctgcgtcacg aatatacggg agcgggtaaa 2160
gagccagtat tcattaacc caggatgcc agcgcgcgcg gtattcgtaa cgggtgatgtg 2220
gtacgcgtct ttaacgctcg cggtcagggtg atggcagggg cagtggtttc tgaccgctat 2280
gcacccggcg tggcacgaat tcacgaagg gcatgggtacg atccagataa aggcggcgag 2340
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acagtggagc aggtgacggc gtttaacggc cccgtggaga tgggtggcga gtgcgaatat 2520
gttccgcgct cgcaggtgaa atca 2544

```

<210> 10

<211> 477

<212> DNA

<213> Artificial sequence

<220>

<223> Description of the artificial sequence: partial
sequence coding for Salmonella typhimurium protein TorA

<400> 10

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atgaaacagg tgggtgcgcc gcagtttgaa gcgcgtaacg actttgatat tttccgcgat 60
ctctgccgac gctttaaccg tgaagcggca ttcacggaag gtcttgatga aatgggctgg 120
ctgaaacgca tctggcagga agggagccag cagggaagaa gtcgcggtat ccacttaccg 180
attttcgagg tgttctggaa tcaacaggag tacatcgagt ttgatcatcc gcagatgttt 240
gtacgccatc aggttttccg tgaagatccg gacctggagc cgttgggcac gccaaagcgg 300
ttgatcgaga tttactccaa aacctatgcc gacatgcaat acgacgatgg tcagggccat 360
cccatgtggt tcgaaaaaat cgaacgctcg catggcgggc cgggacgcga gcgctggcgg 420
ctgcacttac aatccgtcca cctgatttcc cgtctgcatt cccaactgtt gcgagtc 477

```

<210> 11

<211> 390

<212> PRT

<213> Escherichia coli

<400> 11

Met Arg Lys Leu Trp Asn Ala Leu Arg Arg Pro Ser Ala Arg Trp Ser
 1 5 10 15
 Val Leu Ala Leu Val Ala Ile Gly Ile Val Ile Gly Ile Ala Leu Ile
 20 25 30
 Val Leu Pro His Val Gly Ile Lys Val Thr Ser Thr Thr Glu Phe Cys
 35 40 45
 Val Ser Cys His Ser Met Gln Pro Val Tyr Glu Glu Tyr Lys Gln Ser
 50 55 60
 Val His Phe Gln Asn Ala Ser Gly Val Arg Ala Glu Cys His Asp Cys
 65 70 75 80
 His Ile Pro Pro Asp Ile Pro Gly Met Val Lys Arg Lys Leu Glu Ala
 85 90 95
 Ser Asn Asp Ile Tyr Gln Thr Phe Ile Ala His Ser Ile Asp Thr Pro
 100 105 110
 Glu Lys Phe Glu Ala Lys Arg Ala Leu Leu Ala Glu Arg Glu Trp Ala
 115 120 125
 Arg Met Lys Glu Asn Asn Ser Ala Thr Cys Arg Ser Cys His Asn Tyr
 130 135 140
 Asp Ala Met Asp His Ala Lys Gln His Pro Glu Ala Ala Arg Gln Met
 145 150 155 160
 Lys Val Ala Ala Lys Asp Asn Gln Ser Cys Ile Asp Cys His Lys Gly
 165 170 175
 Ile Ala His Gln Leu Pro Asp Met Ser Ser Gly Phe Arg Lys Gln Phe
 180 185 190
 Asp Asp Val Arg Ala Ser Ala Asn Asp Ser Gly Asp Thr Leu Tyr Ser
 195 200 205
 Ile Asp Ile Lys Pro Ile Tyr Ala Ala Lys Gly Asp Lys Glu Ala Ser
 210 215 220
 Gly Ser Leu Leu Pro Ala Ser Glu Val Lys Val Leu Lys Arg Asp Gly
 225 230 235 240
 Asp Trp Leu Gln Ile Glu Ile Thr Gly Trp Thr Glu Ser Ala Gly Arg
 245 250 255
 Gln Arg Val Leu Thr Gln Phe Pro Gly Lys Arg Ile Phe Val Ala Ser
 260 265 270
 Ile Arg Gly Asp Val Gln Gln Gln Val Lys Thr Leu Glu Lys Thr Thr
 275 280 285
 Val Ala Asp Thr Asn Thr Glu Trp Ser Lys Leu Gln Ala Thr Ala Trp
 290 295 300
 Met Lys Lys Gly Asp Met Val Asn Asp Ile Lys Pro Ile Trp Ala Tyr
 305 310 315 320

Ala Asp Ser Leu Tyr Asn Gly Thr Cys Asn Gln Cys His Gly Ala Pro
 325 330 335

Glu Ile Ala His Phe Asp Ala Asn Gly Trp Ile Gly Thr Leu Asn Gly
 340 345 350

Met Ile Gly Phe Thr Ser Leu Asp Lys Arg Glu Glu Arg Thr Leu Leu
 355 360 365

Lys Tyr Leu Gln Met Asn Ala Ser Asp Thr Ala Gly Lys Ala His Gly
 370 375 380

Asp Lys Lys Glu Glu Lys
 385 390

<210> 12
 <211> 21
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of the artificial sequence:
 PCR primer

<400> 12
 cggvgaytac tcbachggtg c 21

<210> 13
 <211> 20
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of the artificial sequence:
 PCR primer

<400> 13
 aty gatgcga tyctcgaacc 20

<210> 14
 <211> 25
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of the artificial sequence:
 PCR primer

<400> 14
 cgtamwsgtc gakatcgtr cgctc 25

<210> 15
 <211> 20
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of the artificial sequence:
 PCR primer

<400> 15
 gactcacaya wytgygagtg 20

<210> 16
 <211> 20
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of the artificial sequence:
 PCR primer

<400> 16
 tgrccdcgrk cgttaaagac 20

<210> 17
 <211> 20
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of the artificial sequence:
 PCR primer

<400> 17
 ccvggttcga gratcgcac 20

<210> 18
 <211> 16
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of the artificial sequence:
 PCR primer

<400> 18
 cbgayatcst rctgcc 16

<210> 19
 <211> 20
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of the artificial sequence:
 PCR primer

<400> 19
 ggmgaytayt cbacmggygc 20

<210> 20

<211> 20
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of the artificial sequence:
 PCR primer

<400> 20
 twygarcgya acgaymtcga 20

<210> 21
 <211> 20
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of the artificial sequence:
 PCR primer

<400> 21
 ggvyrcrtacc abscvccttc 20

<210> 22
 <211> 20
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of the artificial sequence:
 PCR primer

<400> 22
 atcarrccns wvggcgtgcc 20

<210> 23
 <211> 17
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of the artificial sequence:
 PCR primer

<400> 23
 gbcacrtcdg tytgygg 17

<210> 24
 <211> 20
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of the artificial sequence:
 PCR primer

<400> 24

acnccngara arttygargc

20

<210> 25
 <211> 20
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of the artificial sequence:
 PCR primer

<400> 25
 tgyathgayt gycayaargg

20

<210> 26
 <211> 20
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of the artificial sequence:
 PCR primer

<400> 26
 ccytttrtgrc artcdatrca

20

<210> 27
 <211> 17
 <212> DNA
 <213> Artificial sequence

<220>
 <223> Description of the artificial sequence:
 PCR primer

<400> 27
 ttngcrtcra artgngc

17